

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026690**Date Inspected:** 12-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie Docena**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

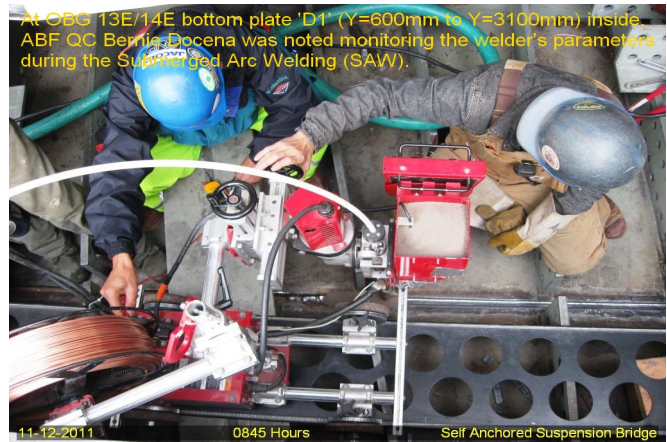
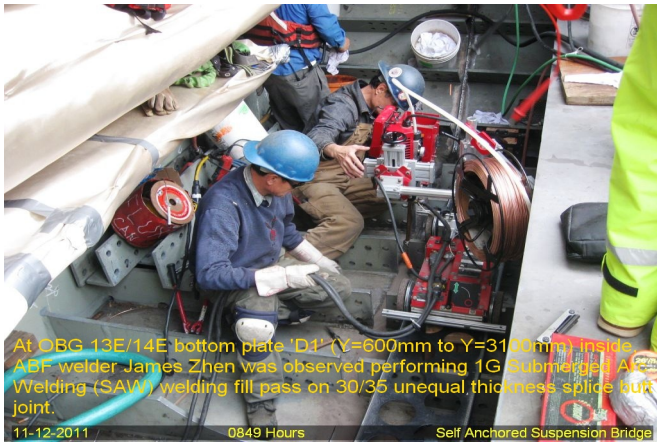
At OBG 13E/14E bottom plate 'D1'(Y=600mm to Y=3100mm) inside, QA randomly observed ABF certified welder James Zhen ID #6001 continuing to perform 1G (flat position) Submerged Arc Welding (SAW) welding fill pass to cover pass on the unequal plate thickness (35mm/30mm) Complete Joint Penetration (CJP) splice butt joint. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The Seismic Performance Critical Member (SPCM) joint being welded has a single V-groove butt joint with backing bar that will be removed then back welded. The plates were preheated to more than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. Welding parameters were monitored by ABF/QC Bernie Docena. Measured welding parameters during welding were 540 amperes, 32.5 volts and 430mm per minute travel speed with calculated heat input of 2.44 Kjoules per mm. QA noted the welding parameters, the workmanship and appearance of the completed fill/cover pass deemed satisfactory. During the shift, cover pass welding was completed and the welder has held the preheat of more than 200°F for three more hours after welding as required. The welder also called the bolting crew to put back the angular connection plates that were temporarily removed to have access for welding. The welder is now preparing to move to the middle (Y=3100mm to Y=6000mm) of the same bottom plate 'D1'.

At OBG 13E/14E vertical plate 'I' inside, QA randomly observed ABF/JV qualified welder Xiao Jian Wan

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

continuing to perform fill pass welding on Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040B-3. The 25mm equal thickness Seismic Performance Critical Member (SPCM) joint being welded has a single V-groove butt joint with backing bar that will be removed and back gouged then back welded. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. Measured parameters during welding were 252 amperes, 23.7 volts and travel speed of 170mm per minute with calculated heat input of 2.11 Kjoules/mm which deemed in compliance to the contract requirements. At the end of the shift, fill pass FCAW-G welding was still continuing and should remain tomorrow. The welder has held the preheat of more than 200°F for three more hours after welding as required.



Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
